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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : Dirk Lauhoff  
Serial No. : 10/686,980  
Filing Date : October 16, 2003  
For : AIR VENT  
Confirmation No. : 8114  
Group Art Unit : 3749  
Examiner : Gregory A. Wilson  
Attorney Docket No. : TRW(AEC)6781

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF**

Sir:

In response to the Notice of Non-Compliant Appeal Brief dated March 18,  
2009 and the Notice of Appeal filed December 17, 2008, Appellant presents this  
Appeal Brief.

**I. REAL PARTY IN INTEREST**

The real party in interest is TRW Automotive Electronics and Components GmbH & Co. KG. An assignment of this application to TRW Automotive Electronics and Components GmbH & Co. KG was recorded October 20, 2004, Reel/Frame: 015907/0331.

**II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

**III. STATUS OF CLAIMS**

Claims 1-5 and 9-12 have been cancelled. Claims 6-8 are currently pending in this application. Claims 6-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 2003/0022616 to Stiehl (hereafter "Stiehl"). The rejection of claims 6-8 is hereby appealed.

**IV. STATUS OF AMENDMENTS**

An Amendment After Final, which did not amend the claims, was filed October 23, 2008. An Advisory Action dated December 3, 2008 indicated that the Amendment After Final has not been entered for the purposes of appeal and that Claims 6-8 still stand as rejected.

**V. SUMMARY OF CLAIMED SUBJECT MATTER**

Independent claim 6 recites a vehicle body air vent including a frame (10) molded of a plastic material for mounting onto a vehicle body and an antenna with an antenna body (12) (Page 3, lines 16-19 and Fig. 1). The antenna body (12) and the plastic material of the frame (10) are integrally molded by injection-molding such that

the antenna body (12) is embedded in and completely surrounded by the plastic material of the frame (10) (Page 3, lines 19-20 and Page 4, lines 1-6; Fig. 2).

**VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

Whether claims 6-8 are unpatentable under 35 U.S.C. §103(a) as being unpatentable over Stiehl.

**VII. ARGUMENTS**

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). 35 U.S.C. §103 forbids issuance of a patent when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” In making a determination of obviousness under 35 U.S.C.

§103(a):

...the scope and contents of the prior art are determined; the differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. Graham v. John Deere, 383 U.S. 1, 17-18, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966).

Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727; 2007 U.S. Lexis 4745, 36-37; 75 U.S.L.W. 4289; 82

U.S.P.Q.2d 1385, 1396 (2007) (emphasis added). Also, the U.S. Supreme Court in KSR Int'l. Co. V. Teleflex, Inc. noted that the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and that it was "important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements in the manner claimed." Id., 82 U.S.P.Q.2d at 1396.

### **Claim 6**

The rejection of claim 6 as being unpatentable over Stiehl is improper and should be reversed for at least the following reasons.

#### **1. Stiehl does not teach or suggest all of the limitations of claim 6.**

Claim 6 recites a vehicle body air vent comprising a frame and an antenna body. The plastic material of the frame and the antenna body are integrally molded such that the antenna body is embedded in and completely surrounded by the plastic material of the frame. In the Office Action, the Examiner interprets surrounded to mean encircled on all *or nearly all* sides (emphasis added) (Page 5). Claim 6, however, does not merely require that the frame surrounds the antenna body, but that the frame completely surrounds the antenna body. In other words, claim 6 requires that all parts – not nearly all – of the antenna are surrounded by the frame. Stiehl does not teach or suggest an antenna body and plastic material of a frame integrally molded such that the antenna body is embedded in and completely surrounded by the plastic material of the frame.

Stiehl teaches an air vent 10 for venting the interior of a vehicle. An antenna 62 having a middle bar 64 and a cross bar 66 is releasably fitted to a frame 12 of the air vent 10. A protuberance on the antenna 62 is inserted into the mounting opening

60 to center the antenna on the frame 12. The antenna 62 is fixed to the frame 12 by means of three fastener points in the region of a recess 50, namely, by snap action tabs 54 and the cooperation of latching tabs 46 with protrusions 70 on the antenna (Paragraph 17 and Figs. 3-4).

The Examiner asserts that the wall sections 36, 38, 40, 42 as well as snap action tabs 54 and protrusions 70 constitute structure of the frame 12 which completely surrounds the antenna 62 (Office Action page 5). As noted, however, the protrusions 70 are part of the middle bar 64 of the antenna 62 - not part of the frame 12 – and, thus, cannot constitute a portion of the frame surrounding the antenna. Regardless, neither the perimeter nor the surface area of the antenna 62 is completely surrounded by the plastic material of the frame 12. As shown in Fig. 1, when the antenna 62 is fitted onto the frame 12, a portion of the middle bar 64 clearly extends substantially beyond the wall 36 of the frame and, thus, is completely uncovered, i.e., not surrounded by the frame in any capacity.

Fig. 1 also illustrates that when the antenna 62 is secured to the frame 12 the surface of the antenna facing away from the frame is clearly visible and not surrounded by the frame in any capacity. In the Advisory Action, the Examiner reasserts that when the antenna is mounted in the vehicle, it would be completely surrounded. Claim 6, however, does not simply require that an antenna be completely surrounded, claim 6 requires that an antenna be embedded in and completely surrounded by the plastic material of the frame. No matter what the configuration of the vehicle is, it does not change the construction of the frame 12. Accordingly, the aforementioned deficiencies in the frame 12 are not and cannot be

remedied by the construction of the vehicle or the connection between the vehicle and the frame.

In the Advisory Action the Examiner even acknowledges this deficiency of the frame 12. In particular, the Examiner asserts that a person having ordinary skill in the art would have found it obvious to cover the antenna of Steihl on all sides when not mounted in the vehicle in order to provide protection from physical damage when the antenna body is not mounted in the vehicle (Advisory Action page 2). If the ordinarily skilled artisan would have found it obvious to cover all sides, i.e., completely surround, the antenna 62, the antenna necessarily must not be completely surrounded on all sides by the frame 12 or any other structure – otherwise the skill of the ordinary artisan would be unnecessary and/or duplicative.

Furthermore, even when the air vent 10 is inserted into a panel aperture in the vehicle, the surface of the antenna 62 facing away from the frame 12 is still completely exposed. In particular, when the air vent 10 is mounted in the panel aperture, the panel is positioned outside of the walls of the frame 12 and engages the fastener tabs 84 on the frame and the gasket 86. This engagement causes the plastic frame 12 and the antenna 62 to extend into the aperture. Since the panel extends around the walls of the frame 12, the entire crossbar 66 and a portion of the middle bar 64 between the connecting wall 32 and the wall section 38 of the frame 12, which are positioned within the frame, have the material of the frame on one side and are completely uncovered on the other side. The remaining portion of the middle bar 64 that extends beyond the frame 12 has the material of the vehicle on one side and is completely uncovered on the other side. Therefore, not only does

the frame 12 not completely surround the antenna 62, but no structure whatsoever completely surrounds the antenna whether the air vent 10 is installed in the vehicle or not.

Additionally, claim 6 recites that the antenna is completely surrounded by the plastic material of the frame because the antenna and the frame are integrally molded together. Hence, the antenna of the present invention is also protected from physical damage when it is not mounted in the vehicle. By contrast, the surface of the antenna 62 facing away from the frame 12 of Stiehl is always exposed and, thus, unprotected before and after the air vent 10 is mounted to the vehicle panel. The Examiner asserts that this recitation represents a product-by-process limitation that does not reveal a structural difference between the claimed invention and Stiehl and, thus, does not patentably distinguish the claimed invention (Office Action page 2). The recitation of an integrally molded connection, however, is a structural difference between the present invention and Stiehl that affords the antenna of the present invention more protection than the frame 12 of Stiehl is capable of affording.

When the terms of a claim are amenable to interpretation as a procedure of manufacture, they should be interpreted as structural limitations when used in an adjective non-process sense and define a physical characteristic of the apparatus. See CVI/Beta Ventures, Inc. v. Custom Optical Frames, Inc., 893 F. Supp. 508, 519 (D. Md. 1995) Cf. Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 39 USPQ2d 1783 (Fed. Cir. 1996). For example, the word 'frozen', though descriptive of the process of freezing, definitely describes an objective characteristic observable by inspection of the product. Likewise, the Federal Circuit has held the terms

“superimposed” and “embossed” to be structural limitations and not product-by-process limitations. *3M Innovative Props. Co. v. Avery Dennison Corp.*, 350 F.3d 1365 (Fed. Cir. 2003), *cert. denied*, 124 S. Ct. 2877 (2004).

In the present case, by completely surrounding the antenna with the plastic of the frame by integrally molding the two together, the entire antenna can be safeguarded from damage at any time, whereas the surface of the antenna 62 facing away from the frame 12 in Stiehl is always exposed, whether the frame is mounted in the vehicle or not. Therefore, the integrally molded connection of the present invention provides a structural feature – the complete physical surrounding of the antenna at all times – that the frame 12 of Stiehl is not capable of providing. The physical surrounding of the antenna by the frame is an objectively observable characteristic of the frame and, thus, provides a structural feature to the frame.

The structural difference between the physical connections in Stiehl and the present invention is also objectively observable. In order to accomplish the simple, three point fastening of the antenna 62 to the frame 12 of Steihl, a plurality of snap action tabs 54 are provided. On the other hand, since the present invention relies on the material of the frame to completely surround the antenna such snap action tabs are not necessary. The absence or presence of snap action tabs is clearly an objectively observable structural difference between Stiehl and the present invention.

Accordingly, the integrally molded connection in claim 6 recites structural differences between the present invention and Stiehl and, therefore, should be given patentable weight. For the reasons set forth above, the rejection of claim 6 under 35



U.S.C. §103(a) fails to establish a prima facie case for obviousness because Stiehl does not teach or suggest all of the claim limitations of claim 6.

**2. There is no reason that would have prompted a person of ordinary skill in the relevant field to modify Stiehl to include the subject matter recited in claim 6.**

One having ordinary skill would not have modified Stiehl to provide that an antenna body and the plastic material of a frame are integrally molded such that the antenna body is embedded in and completely surrounded by the plastic material of the frame because such a modification would be duplicative and, thus, non-obvious.

The Examiner states that it would have been obvious “to have integrated the antenna into the plastic since such a modification would not affect the performance of the antenna, nor does it solve any stated problem in a new or unexpected way or is for any particular purpose which is unobvious to one having ordinary skill in the art and it has been held that the term “integral” and its derivative is sufficiently broad to embrace constructions united by such means as fastening and welding”. However, this is not a reason that would have prompted a person of ordinary skill in the relevant field to modify Stiehl to provide that an antenna body and the plastic material of the frame are integrally molded such that the antenna body is embedded in and completely surrounded by plastic material of the frame.

The Examiner contends that the antenna 62, when mounted, would be completely surrounded by the aforementioned components to meet the applicants’ need of not being affected from deterioration by environmental influences (Office Action page 5). Stiehl, however, teaches that a gasket 86 – not portions of the frame 12 – seals off the air vent 10 so that the antenna 62 is accommodated in the vehicle

safe from physical damage (Paragraph 20). Since the antenna 62 in Stiehl is already: 1) protected from physical damage by the gasket 86, and 2) mechanically attached to the frame 12, completely surrounding the antenna with the plastic material of the frame would be duplicative and, thus, non-obvious to one having ordinary skill.

Furthermore, Stiehl teaches that the T-shape of the antenna is particularly of advantage for it being fitted to the frame 12 since it does not reduce the through-flow opening 26 (Paragraph 17), which can be open or closed by flaps 14 for venting the device. The simple, three point fastening engagement between the T-shaped antenna 62 and the frame 12 secures the antenna to the frame at locations that are outside of, and don't interfere with, the through-flow opening 26. The fastening means taught by Steihl therefore further the objective of maximizing the size of the through-flow opening 26. If, however, the fastening means of Steihl were replaced with a construction in which the antenna was embedded in and completely surrounded by the frame, portions of the frame would necessarily encroach into the through-flow opening in order to completely surround the antenna, thereby reducing the size of the through-flow opening. Since such a construction is contrary to the objective of Steihl, it would not be obvious to one having ordinary skill.

For these reasons, it is respectfully submitted that claim 6 is patentable over Stiehl and is therefore allowable.

#### **Claims 7-8**

Claims 7-8 depend from claim 6 and are allowable for at least the same reasons as claim 6 and for the specific limitations recited therein.

**VIII. CLAIMS APPENDIX**

Appendix A attached contains a copy of the claims on appeal.

**IX. EVIDENCE APPENDIX**

None.

**X. RELATED PROCEEDINGS APPENDIX**

None.

Please charge any deficiency or credit any overpayment in the fees for this  
Appeal to Deposit Account No. 20-0090.

Respectfully submitted,

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**APPENDIX A**

**Claims 1-5 (Canceled)**

**Claim 6 (Previously Presented):** A vehicle body air vent comprising:

a frame molded of a plastic material for mounting onto a vehicle body;

and

an antenna with an antenna body, wherein the antenna body and the plastic material of the frame are integrally molded by injection-molding such that the antenna body is embedded in and completely surrounded by the plastic material of the frame.

**Claim 7 (Previously Presented):** The vehicle body air vent according to claim 6, wherein in addition to the antenna an electric or electronic component of one of the following is provided:

an antenna microstrip,

a connect plug, and

a sensor.

**Claim 8 (Previously Presented):** The vehicle body air vent of claim 6, wherein the frame is generally rectangular with a plurality of ribs spanning two opposed frame sections, and the antenna consists of a T-shaped metallic body with a first branch spanning the opposed frame sections and a second branch extending along one of the opposed frame sections.

**Claims 9-12 (Canceled)**

**IX. EVIDENCE APPENDIX**

None.

**X. RELATED PROCEEDINGS APPENDIX**

None.